ORISE
OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

ENERGY/ENVIRONMENT SYSTEMS DIVISION

October 23, 1995

Mr. Don Williams
U. S. Department of Energy
EM-421
Cloverleaf Building
Washington, DC 20585-0002

SUBJECT: ADDITIONAL SURVEYS OF THE BUILDING T064 SIDE YARD, SANTA SUSANA FIELD LABORATORY, VENTURA COUNTY, CALIFORNIA

Dear Mr. Williams:

In June 1992, the Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) performed a verification survey of the Building T064 Side Yard located at the Santa Susana Field Laboratory and identified several areas of residual Cs-137 soil contamination. Rockwell personnel later performed remediation in two of the three areas ESSAP had identified. At the request of the U. S. Department of Energy, ESSAP performed a follow up survey of the subject area during the week of September 11, 1995 in order to determine whether the areas had been adequately remediated.

Rockwell cleared the brush from the area and ESSAP then performed gamma surface scans using NaI scintillation detectors coupled to ratemeters with audible indicators. In addition to the unexcavated hot spot that ESSAP initially identified in 1992 (location A on Figure 1), two additional locations of elevated direct radiation where identified during the September 1995 survey. Both locations were contiguous to the other two hot spots previously identified in 1992 (locations B and C on Figure 1). Surface (0 to 15 centimeters) soil samples were collected from six locations in and around the areas of elevated direct gamma radiation (locations 1 through 6 on Figure 1). In addition a subsurface (15 to 30 centimeters) soil sample was collected from sampling location # 1.

The samples were analyzed by gamma spectrometry at ESSAP's laboratory in Oak Ridge, Tennessee. Analytical results are provided in Table 1. Cs-137 activity concentration levels ranged from 0.6 to 72.1 pCi/g for surface samples. The single subsurface sample contained 8.1 pCi/g of Cs-137. Six of the eight samples collected contain Cs-137 activity concentration levels in excess of the 7.08 pCi/g cleanup criteria that Rockwell has used for the Side Yard area. There were no other gamma emitting radionuclides identified in samples, other than those that are naturally occurring.

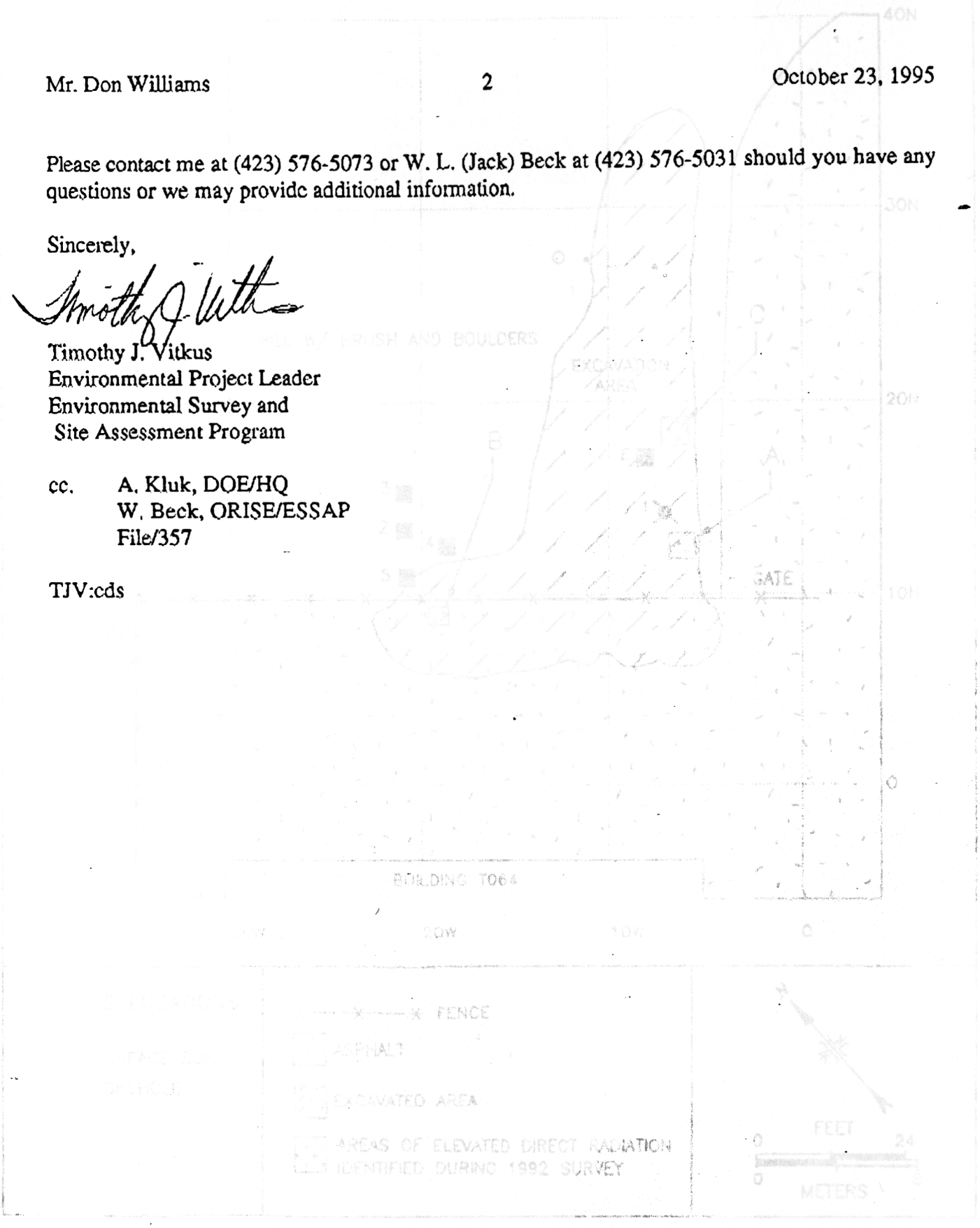
Please contact me at (423) 576-5073 or W. L. (Jack) Beck at (423) 576-5031 should you have any questions or we may provide additional information.

Sincerely,

Timothy J. Vitkus
Environmental Project Leader
Environmental Survey and
Site Assessment Program

cc. A. Kluk, DOE/HQ
W. Beck, ORISE/ESSAP
File/357

TJV:cds



Building T064 Side Yard – Soil Sampling Locations and Locations of Previously Identified Areas of Elevated Direct Radiation

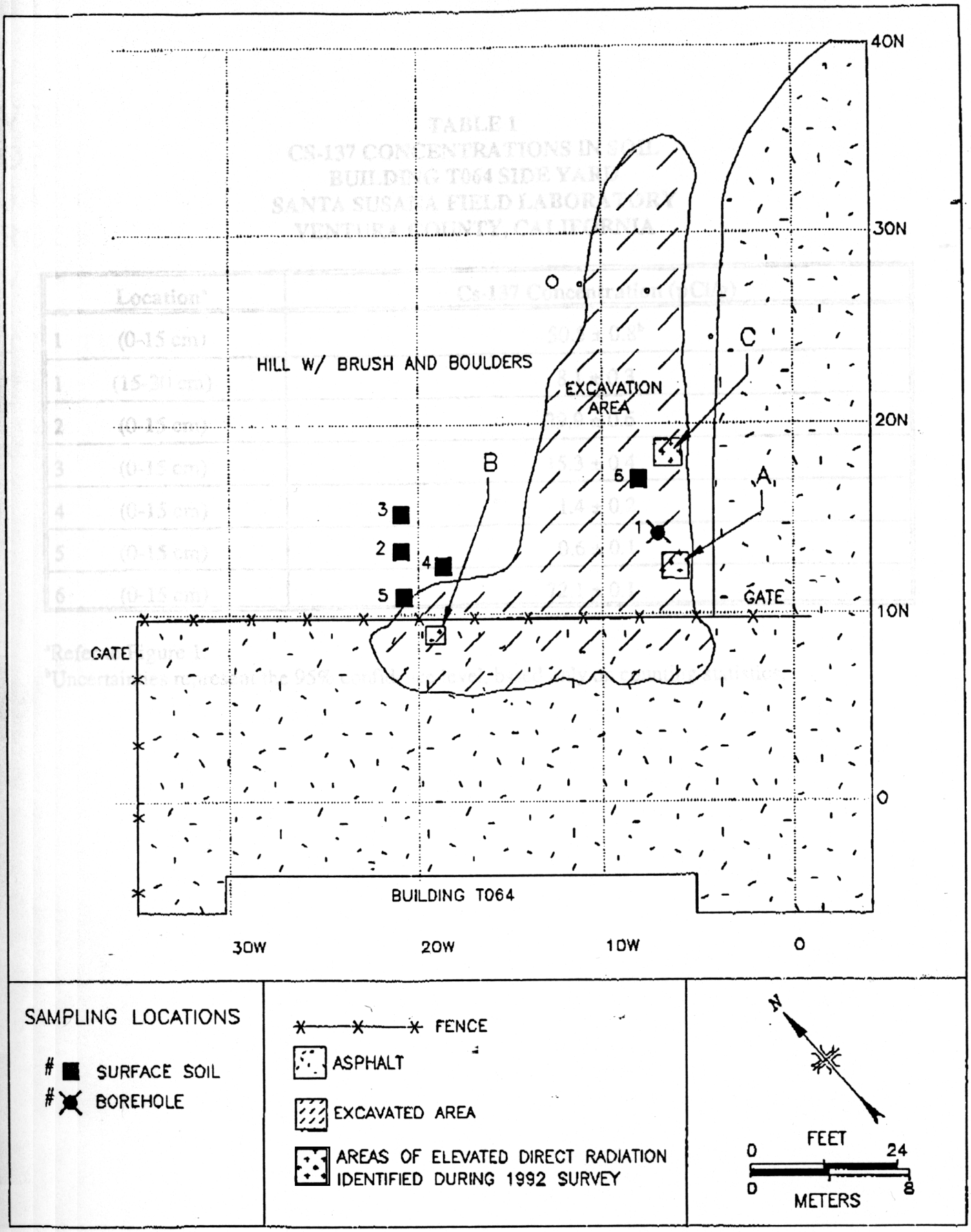


FIGURE 1: Building T064 Side Yard – Soil Sampling Locations and Locations of Previously Identified Areas of Elevated Direct Radiation

TABLE 1
CS-137 CONCENTRATIONS IN SOIL
BUILDING T064 SIDE YARD
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location[a]		Cs-137 Concentration (pCi/g)
1	(0-15 cm)	50.5 ± 0.8[b]
1	(15-30 cm)	8.1 ± 0.3
2	(0-15 cm)	29.9 ± 0.6
3	(0-15 cm)	15.3 ± 0.4
4	(0-15 cm)	1.4 ± 0.2
5	(0-15 cm)	0.6 ± 0.1
6	(0-15 cm)	72.1 ± 0.1

[a]Refer to Figure 1.
[b]Uncertainties represent the 95% confidence level, based only on counting statistics.